Chronic Disease Indicators: Indicator Definition

Hospitalization for asthma

Category:	Other Diseases and Risk Factors
Demographic Group:	All resident persons.
Numerator:	Hospitalizations (unduplicated*) with a principal diagnosis of International Classification of Diseases (ICD)-9-CM code 493 among residents during a calendar year. When possible, include hospitalizations for residents who are hospitalized in another state.
Denominator:	Midyear resident population for the same calendar year.
Measures of Frequency:	Annual number of persons hospitalized. Annual hospitalization rate — crude and age-adjusted (standardized by the direct method to the year 2000 standard U.S. population, distribution 1†) — with 95% confidence interval.
Time Period of Case Definition:	Calendar year.
Background:	Each year, approximately 500,000 hospitalizations related to asthma occur in the United States. Hospitalization rates are highest in the northeastern region of the United States. An estimated 15 million U.S. residents have asthma, which is an 82% increase in the past 15 years. Although institutional care is used less frequently, its cost is substantially higher than the cost of outpatient and pharmaceutical services.
Significance :	Hospitalizations due to asthma could be reduced if asthma is managed according to established guidelines. Effective management includes control of exposure to factors that trigger exacerbations, adequate pharmacological management, continual monitoring of the disease, and patient education in asthma care.
Limitations of Indicator:	Diagnoses listed on hospital discharge data might be inaccurate. Practice patterns and payment mechanisms can affect decisions by health-care providers to hospitalize patients. Residents of one state might be hospitalized in another state and not be reflected in the first hospital's data set. Multiple admissions for one person might falsely elevate the number of persons hospitalized. Because universal state hospital discharge data are not available, aggregation of state data to produce nationwide estimates will be incomplete. Only a limited number of states are able to unduplicate hospital discharge data.
Data Resources:	State hospital discharge data (numerator) and population estimates from the U.S. Bureau of the Census or suitable alternative (denominator).
Limitations of Data Resources:	Diagnoses listed on hospital discharge data might be inaccurate. Practice patterns and payment mechanisms can affect decisions by health-care providers to hospitalize patients. Residents of one state might be hospitalized in another state and not be reflected in the first hospital's data set. Multiple admissions for one person might falsely elevate the number of persons hospitalized. Because universal state hospital discharge data are not available, aggregation of state data to produce nationwide estimates will be incomplete.
Healthy People 2010 Objectives:	24-2: Reduce hospitalizations for asthma. (24-2a is specific for children aged <5 years; 24-2b is specific for children and adults aged 5–64 years; 24-2c is specific for adults aged >=65 years.)

* The term unduplicated means that persons with multiple admissions during the calendar year should only be counted once.   † See Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics, 2001. Healthy people 2010 statistical notes, no. 20 http://www.cdc.gov/nchs/data/statnt/statnt20.pdf